WE CLAIM:

1. In a control system for controlling traffic signal lights, normally supplied with power from the AC source, the combination comprising

a) flasher means electrically connectible to the lights to cause the lights to come ON and OFF, repeatedly,

b) an electrical power storage device electrically connectible to the flasher means for supplying electrical power to operate the flasher means when AC source power is not supplied to the traffic control system, and

c) a charging device for charging the storage device when AC power is normally supplied to the traffic control system.

2. The combination of claim 1 wherein said charging device is associated with the traffic control lights.

3. The combination of claim 1 including a voltage disconnect device operatively connected with said storage device for preventing feed-back of stored power to selected elements of said control system when AC power is not being supplied to the system.

4. The combination of claim 3 wherein said voltage disconnect device is associated with said traffic control lights.

5. The combination of claim 1 wherein the control system includes:

vi) load switches corresponding to said traffic control lights for supplying AC power thereto,

vii) a conflict monitor circuit, and

viii) relay means operatively connected between said load switches and said control lights, and to said flasher means, and controlled by said monitor circuit, to remove power transmission via the load switches to the control lights, and to connect power transmission from the flasher means to said lights.

6. The combination of claim 5 wherein the conflict monitor circuit includes measuring circuitry to measure the presence or absence of predetermined or selected AC field wire voltages at outputs defined by the load switches, whereby if the measured voltages are not at predetermined levels, the monitor circuit determines that a malfunction has occurred, so that corrective action can be taken.

7. The combination of claim 6 including a controller or controllers to control DC voltages that turn the load switches ON or OFF, the monitor operatively connected to said controller or controllers to monitor said DC voltages, whereby if the DC voltage falls below a threshold level required for operation of the system, the monitor circuit determines that a malfunction has occurred, and initiates corrective action.

8. The combination of claim 7 including voltage re-routing control circuitry operatively connected with said charging device and said power storage device, for activating said charging device at times when AC line voltage is sufficient to operate said flasher means.

9. The combination of claim 1 wherein said charging device includes an AC to DC converter.

10. The combination of claim 8 wherein said charging device includes an AC to DC converter.

11. The combination of claim 1 including a voltage disconnecting device operatively connected between an AC power source and said flasher means to disconnect said flasher means from said power source when power source voltage falls below a predetermined level.

12. The combination of claim 11 including a voltage re-routing control circuitry operatively connected with said charging device and said power storage device, for activating said charging device at times when AC line voltage is sufficient to operate said flasher means, and wherein said voltage re-routing control circuitry is operatively connected to said voltage disconnecting device to effect said disconnecting of the flasher means from the AC power source, and to substitute connection of said power storage device to said flasher means.

13. The combination of claim 12 wherein said charging device includes an AC to DC converter.

14. The combination of claim 1 including said traffic lights which incorporate LED light sources.

15. The combination of claim 14 including housings for said LED traffic lights, said flasher means located in at least one of said housings.

16. The combination of claim 1 including switching means to control switching of power supply to the flasher means from AC line power to DC power from said power storage device, in response to a decrease in AC power voltage level to or below a predetermined threshold.

17. The method of providing and operating a control system for controlling traffic signal lights, normally supplied with power from an AC source, which includes the steps:

a) providing flasher means electrically connectible to the lights to cause the lights to come ON and OFF, repeatedly,

b) providing an electrical power storage device electrically connectible to the flasher means for supplying electrical power to operate the flasher means when AC source power is not supplied to the traffic control system, and

c) providing a charging device acting to charge the storage device when AC power is normally supplied to the traffic control system.

18. The method of claim 17 wherein said charging device is provided in association with the traffic control lights.

19. The method of claim 17 including providing a voltage disconnect device operatively connected with said storage device and operating to prevent feed-back of stored power to selected elements of said control system when AC power is not being supplied to the system.

20. The method of claim 19 wherein said voltage disconnect device is provided in association with said traffic control lights.

21. The method of claim 17 wherein the control system is provided to include:

i) load switches corresponding to said traffic control lights for supplying AC power thereto,

ii) a conflict monitor circuit, and

iii) relay means operatively connected between said load switches and said control lights, and to said flasher means, and controlled by said monitor circuit, to remove power transmission via the load switches to the control lights, and to connect power transmission from the flasher means to said lights.

22. The method of claim 21 wherein the conflict monitor circuit is provided to include measuring circuitry to measure the presence or absence of predetermined or selected AC field wire voltages at outputs defined by the load switches, whereby if the measured voltages are not at predetermined levels, the monitor circuit determines that a malfunction has occurred, so that corrective action can be taken.

23. The method of claim 22 wherein a controller or controllers is or are provided to control DC voltages that turn the load switches ON or OFF, the monitor circuit operatively connected to said controller or controllers to monitor said DC voltages, whereby if the DC voltage falls below a threshold level required for operation of the system, the monitor circuit determines that a malfunction has occurred, and initiates corrective action.

24. The method of claim 23 including providing a voltage re-routing control circuitry operatively connected with said charging device and said power storage device, and operating to activate said charging device at times when AC line voltage is sufficient to operate said flasher means.

25. The method of claim 17 wherein said charging device is provided to include an AC to DC converter.

26. The method of claim 17 including providing a voltage disconnecting device operatively connected between an AC power source and said flasher means and operating to disconnect said flasher means from said power source when power source voltage falls below a predetermined level.

27. The method of claim 26 including providing a voltage re-routing control circuitry operatively connected with said charging device and said power storage device, and operating to activate said charging device at times when AC line voltage is sufficient to operate said flasher means, and wherein said voltage re-routing control circuitry is operatively connected to said voltage disconnecting device and operating to effect said disconnecting of the flasher means from the AC power source, and to substitute connection of said power storage device to said flasher means.

28. The method of claim 17 including providing said traffic lights to incorporate LED light sources.

29. The method of claim 17 including providing switching means controlling switching of power supply to the flasher means from AC line power to DC power from said power storage device, in response to a decrease in AC power voltage level to or below a predetermined threshold.

30. The method of claim 17 wherein the control system is supplied with power from a DC voltage source.

31. The combination of claim 1 including a traffic signal light housing structure for housing said flasher means.

32. The combination of claim 31 wherein said structure houses a), b) and c) of claim 1.

33. The combination of claim 11 including voltage re-routing control circuitry operatively connected with said charging device and said power storage device, for activating said charging device at times when AC line voltage is sufficient to operate said flasher means.

35. The combination of claim 33 including a line or lines connected between said charging device and the output side of said voltage disconnecting device.

36. The combination of claim 33 including a voltage reduction circuitry operatively connected between said voltage disconnecting device and said flasher means.

37. The combination of claim 36 including a control line or lines connected between said voltage re-routing control circuitry and the output side of said voltage reduction circuitry.

38. The combination of claim 36 including a control line or lines connected between said voltage re-routing control circuitry and the output side of said flasher means.